Year 8 Statistics – Challenge

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Year 8 · Maths · Statistics · Level 3 Challenge · 8 questions

Name _____ **Date** _____

A. Think like a mathematician

1. A frequency table shows goals scored (goals: frequency) 1: 5; 2: 4; 3: 7; 4: 8. Hana finds the mean as (1 + 2 + 3 + 4) ÷ 4 = 2.5. Explain the mistake and find the mean.

Answer _____

2. In a survey of 20 people, 5 chose tea. Bella draws the tea sector of a pie chart with an angle of 25°. Explain the mistake and find the correct angle.

Answer _____

3. In a survey of 40 people, 4 chose tea. Jade draws the tea sector of a pie chart with an angle of 10°. Explain the mistake and find the correct angle.

Answer _____

4. Gus says a larger sample always gives better results, even if it is biased. Is Gus right? Explain.

Answer _____

5. Bella says if two groups have the same mean, their data must be equally spread out. Is Bella right? Explain.

Answer _____

6. Ivo says a pie chart is a good way to show how data changes over time. Is Ivo right? Explain.

Answer _____

7. Points scored by player A in six games: 53, 61, 50, 61, 85, 62. Player B: 63, 61, 54, 76, 54, 76. Compare the two players using the mean and the range.

Answer _____

8. A school council wants to find out students' views by choosing names at random from a hat or with a random number generator (random sampling). Give one advantage and one disadvantage of this method.

Answer _____